

Safety

Implementation of Hazard Communication Standard

For the Commander in Chief:

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Official:



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**Summary.** The USAREUR workforce consists of personnel from several European countries. To ensure all employees understand the Hazard Communication Standard (HCS) briefing, the HCS briefing will be given in English and in the language of the host nation.

**Suggested Improvements.** The proponent of this change is the Office of the Deputy Chief of Staff, Personnel, HQ USAREUR/7A (AEAGA-S, 370-7751/8124). Users may send suggestions to improve the basic regulation on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to the Commander in Chief, USAREUR, ATTN: AEAGA-S, Unit 29351, APO AE 09014.

**Distribution.** Distribute according to DA Form 12-88-E, block 0559, command level B.

1. USAREUR Regulation 385-10, 10 December 1992, is changed as follows:

**Page 2, paragraph 4d.** Supersede subparagraph (3) as follows:

(3) Give HCS briefings (app A) in English and in the official language of the host nation.

**Page 3, paragraph 4j.** Supersede subparagraph (6) as follows:

(6) Ensure employees receive the HCS briefing in English or in the official language of the host nation.

**Page 4, paragraph 9a.** Supersede subparagraph (1) as follows:

(1) Receive an HCS briefing (app A) from the BSB safety and occupational health office. The briefing will include a summary handout of HCS information (app B).

**Page A-1, paragraph A-1.** Supersede subparagraph e as follows:

e. Visual aids:

(1) The pages at the end of this appendix are masters for making overhead-projector slides.

(2) English and German versions of the training video-tape, The Federal Hazard Communication Program, are available (para A-2).

**Page A-1.** Supersede paragraph A-2 as follows:

**A-2. MATERIALS**

Item	Instructor	Student
Lesson guide	1	1
Video #505215-VT (English)	1	0
Video #505215-G-VT (German)	1	0
Summary handout	1	1

2. Post these changes according to DA Pamphlet 310-13.

3. File this change in front of the regulation for reference.

Safety

IMPLEMENTATION OF HAZARD COMMUNICATION STANDARD

For the Commander in Chief:

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**Applicability.** This publication applies to soldiers and civilian employees who work with or who may be exposed to hazardous chemicals or materials.

**Supplementation.** Commanders will not supplement this publication without Commander in Chief, USAREUR (AEAGA-S), approval.

**Interim Changes.** Interim changes to this publication are not official unless authenticated by the Deputy Chief of Staff, Information Management, USAREUR. Interim changes will be destroyed on their expiration dates unless sooner superseded or rescinded.

**Suggested Improvements.** The proponent of this publication is the Office of the Deputy Chief of Staff, Personnel, HQ USAREUR/7A (AEAGA-S, 370-7751/8124). Users may send suggestions to improve this publication on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to the Commander in Chief, USAREUR, ATTN: AEAGA-S, Unit 29351, APO AE 09014.

**Summary.** This publication establishes responsibilities and procedures for implementing the USAREUR Hazard Communication Standard.

**Distribution.** Distribute according to DA Form 12-88-E, block 0559, command level B.

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1. PURPOSE

This regulation provides regulatory guidance for implementing the USAREUR Hazard Communication Standard (HCS). Soldiers and civilian employees who work with or who may be exposed to hazardous chemicals or materials will have access to information on chemicals used in the workplace.

2. REFERENCES

- a. 29 Code of Federal Regulation (CFR) 1910.1200, Hazard Communication.
- b. DOD 6050.5-L, DOD Hazardous Materials Information System: Hazardous Item Listing.

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- c. AR 40-5, Preventive Medicine.
- d. AR 385-10, Army Safety Program.
- e. AR 700-141, Hazardous Material Information System (HMIS).

### 3. EXPLANATION OF ABBREVIATIONS

ASG	area support group
BSB	base support battalion
CFR	Code of Federal Regulations
CPO	civilian personnel office
DEH	director of engineering and housing
DIN	<i>Deutsche Industrie Norm</i>
HCS	hazard communication standard
HMIS	Hazardous Materials Information System
IHS	industrial hygiene surveys
MSDS	material safety data sheet
OHMIS	Occupational Health Management System
OPF	official personnel folder
PPE	personal protective equipment
SASOHI	standard Army safety and occupational health inspection
SOP	standing operating procedure

### 4. RESPONSIBILITIES

a. Base support battalion (BSB) commanders, through their designated safety and occupational health officials, will establish and implement a hazard communication program. The program will meet the requirements of 29 CFR 1910.1200. Implementation will require the efforts of unit commanders, installation coordinators, supervisors, and safety, engineering, medical, logistics, and procurement personnel.

b. Unit commanders will ensure supervisors and users receive unit training.

c. Area support group (ASG) safety and occupational health managers will develop, coordinate, and issue hazard communication program policy and guidance for ASGs, BSBs, and tenant activities.

d. BSB safety and occupational health managers will—

(1) Conduct job hazard analyses and standard Army safety and occupational health inspections (SASOHIs) (AR 385-10) to identify workplace hazards.

(2) Provide technical assistance for corrective measures, such as engineering controls and personal protective equipment (PPE).

(3) Give HSC briefings (app A).

(4) Conduct periodic HCS courses.

(5) Develop and implement ASG and BSB hazard communication standing operating procedures (SOP).

(6) Approve for supervisors to give the HSC briefing only when safety office personnel are not available.

e. Civilian personnel offices (CPOs) will—

(1) Provide administrative support for HCS briefings given in new employee orientations and in supervisory professional development courses.

(2) Identify civilian employees who work with or who may be exposed to hazardous chemicals or materials. CPOs will schedule these employees to attend HCS briefings.

(3) Ensure employees receive physicals before they begin employment. The physicals will be kept in employee personnel files.

f. Directorates of engineering and housing (DEHs) will—

(1) Eliminate identified workplace hazards that can be corrected by engineering standards.

(2) Manage spill prevention and cleanup programs.

(3) Manage the hazardous waste program.

(4) Provide material safety data sheets (MSDSs) (or the host nation equivalent), *Deutsche Industrie Norm (DIN)*, or HMIS data on DEH supply system issue items.

(5) Maintain MSDS, DIN, or HMIS visibility on DEH supply system issue items.

(6) Inform contractors and employees of hazards to which they may be exposed.

g. Preventive medicine activities will—

(1) Conduct industrial hygiene surveys.

(2) Provide technical guidance (such as advice on PPE).

h. Procurement officers will require—

(1) Ordering activities to submit the latest MSDS or DIN with purchase order documents for locally procured

hazardous chemicals, when available. This procedure readily identifies items as being hazardous chemical orders.

(2) Vendors and contractors to provide MSDSs or the host nation equivalent with each unit of supply.

i. Construction contracting officer representatives will ensure—

(1) Contractors are briefed on chemical hazards in the area where they will be working.

(2) Soldiers and civilian employees are aware of hazardous chemicals introduced by the contractor during contract performance.

j. Supervisors will—

(1) Maintain an inventory of hazardous chemicals or materials in the workplace. When re-ordering, supervisors will submit a copy of the last MSDS or DIN with the procurement request.

(2) Ensure hazardous substances are properly labeled.

(3) Submit a work order request to correct identified hazards.

(4) Ensure position descriptions are accurate and reflect potential work exposures.

(5) Identify personnel who work with or who may be exposed to hazardous chemicals or materials.

(6) Ensure employees receive HCS training.

(7) Give the HCS briefing (app A) with BSB safety and occupational health manager approval.

(8) Ensure personnel who work with or who may be exposed to hazardous chemicals or materials receive baseline medical examinations.

(9) Ensure employees are provided with and use prescribed PPE.

(10) Ensure HMIS data or MSDSs (or the host nation equivalent) concerning chemicals in the workplace are available to employees.

k. Heads of supply support activities and regional supply centers must (except when providing medical supplies)—

(1) Provide MSDS or HMIS data when issuing hazardous material to customers.

(2) Maintain MSDS or HMIS data on supply items issued.

l. Personnel who work with hazardous chemicals or materials will—

(1) Attend an HCS briefing.

(2) Receive a baseline medical examination.

(3) Use personal protective clothing and equipment, as required.

(4) Handle hazardous chemicals and materials only as directed.

(5) Report workplace hazards and violations of the SOP or current policy to supervisors.

## 5. WRITTEN HAZARD COMMUNICATION PROGRAM

BSB safety managers will develop a local SOP. SOPs must prescribe procedures for—

a. Obtaining and using MSDSs and HMIS data for hazardous chemicals and materials in the workplace.

b. Using DD Form 2521 (Hazardous Chemical Warning Label).

c. Ensuring baseline medical examinations are given to personnel identified to be exposed to hazardous chemicals.

d. Procuring personal protective clothing and equipment and instructing employees on proper use of those items.

## 6. WORKPLACE SURVEYS

BSB safety managers performing SASOHIs (AR 385-10) and using the occupational Health Management Information System (OHMIS) (AR 40-5) will—

a. Identify where hazardous chemicals and materials are stored and used.

b. Compare SASOHI findings with industrial hygiene surveys to determine which hazardous chemicals, materials, locations, and personnel will be included in the HCS and the OHMIS.

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### **7. HMIS AND MSDS**

a. Users of hazardous materials and chemicals will update HMIS data or MSDS files when supplies or products change.

b. Contracting officers will require MSDS or the host nation equivalent be provided with each unit of supply for locally procured hazardous materials and chemicals. The contractor will send a legible copy of the MSDS or an equivalent with the material to the contracting officer.

c. Supervisors will maintain HMIS data or current MSDS or DIN information on hazardous chemicals in the workplace for employee use.

### **8. LABELING**

Personnel who label containers of hazardous chemicals and materials will ensure—

a. A DD Form 2521 is affixed to unlabeled hazardous chemical containers, tanks, and vats.

b. Containers are not relabeled when commercial labels meet HCS requirements.

### **9. INFORMATION AND EDUCATION**

a. Military personnel who work with or who may be exposed to hazardous chemicals or materials will—

(1) Receive an HCS briefing (app A) from the BSB safety and occupational health office. The HCS briefing is available in English and German. The briefing will include a summary handout of HCS information (app B).

(2) Be briefed by their immediate supervisor on how to use and handle hazardous chemicals and materials in the workplace.

b. The safety and occupational health office will—

(1) Document each soldier's and civilian's attendance at the HCS briefing on DD Form 1556 (Request, Authorization, Agreement, Certification of Training and Reimbursement).

(2) Give each soldier and civilian employee a copy of DD Form 1556 and send a copy to the appropriate office of record to be filed in the person's official personnel file (OPF). DD Form 1556 will be kept in the OPF for 30 years after the person separates from the Government service.

c. Civilian personnel who work with or who may be exposed to hazardous chemicals or materials and newly appointed supervisors will—

(1) Receive an HCS briefing during the civilian personnel office employee orientation or supervisory training.

(2) Have accurate job descriptions.

(3) Be briefed by their immediate supervisor on proper use and handling of hazardous chemicals and materials used in their work areas.

d. Military and civilian personnel who have received an equivalent hazardous chemical briefing or orientation that is documented in their OPFs are not required to receive another HCS briefing.

## APPENDIX A HAZARD COMMUNICATION STANDARD BRIEFING

### SECTION I LESSON DEVELOPMENT SHEET

#### A-1. SUPPORT

- a. Lesson length: 1 hour.
- b. Instructor requirements: Subject matter expert provided by the base support battalion safety office.
- c. Equipment requirement:
  - (1) Television.
  - (2) 3/4-inch videotape player.
  - (3) Overhead projector.
  - (4) Screen.
- d. Reference DOD Federal Hazard Communication Training Program Student Workbook, 6050.5-W, April 1989.
- e. Visual aids:
  - (1) The pages at the end of this appendix are masters for making overhead projector slides. The masters are also available in German from the Deputy Chief of Staff, Personnel, USAREUR (AEAGA-S).
  - (2) Training videotape (TVT) 20-872, The Federal Hazard Communication Program (specify English or German version).

#### A-2. MATERIALS

Item	Instructor	Student
Lesson guide	1	1
TVT 20-872 (English or German)	1	
Summary handout	1	1

#### A-3. PURPOSE

To fulfill Occupational Safety and Health Administration (OSHA) required training on hazardous chemicals in the workplace.

#### A-4. OBJECTIVES

- a. Introduce personnel to the USAREUR Hazard Communication Standard.

- b. Explain the information required on hazardous material.

- c. Identify potential physical and health hazards.

- d. Identify preventive measures and protective equipment.

#### A-5. EXECUTION

The briefing consists of five parts. Part one is taught by the instructor using the recommended narrative in the class outline. Parts 2 through 4 are used to introduce and review the learning objectives. Part 5 is an oral examination. The instructor will give each attendee a summary handout (app B) at the end of part 4.

##### a. Part 1, Introduction. This lesson—

- (1) Introduces the standard issued by OSHA as it applies to Federal agencies.

- (2) Identifies the goals of the USAREUR Hazard Communication Standard.

- (3) Helps personnel recognize everyone has a responsibility to identify and report potential hazards to the chain of command.

##### b. Part 2, Chemical Forms and Exposure Hazards. This lesson teaches personnel to—

- (1) Recognize the forms chemicals can take.
- (2) Identify the ways liquids and solids become airborne.
- (3) Identify sources of mists, vapors, dusts, and fumes in the workplace.
- (4) Identify the ways chemicals enter the body.

**c. Part 3, Physical and Health Hazards.** This lesson divides chemical hazards into physical hazards and health hazards, defines both categories, and provides examples.

**d. Part 4, Controlling Chemical Hazards.** This lesson introduces the ways hazardous chemicals can be controlled. The lesson describes engineering and mechanical controls, such as substitution, isolation, and ventilation, and the types of personal protective equipment.

**e. Part 5, Oral Examination.** This lesson measures the accomplishment of the learning objectives and provides a final review of the material.

**SECTION II  
ORIENTATION PROGRAM—DOD FEDERAL  
HAZARD COMMUNICATION STANDARD  
BRIEFING SCRIPT**

TIME EVENT

0:00  
SLIDE 1 The Federal Government is working to reduce the risk of injury or illness caused by hazardous chemicals in the workplace.

Accomplishing these goals requires information and communication. Everyone needs to know whether or not the hazardous chemicals they work with pose a risk to safety or health and how to minimize or eliminate such risks.

SLIDE 2 The Hazard Communication Standard was issued by the Occupational Safety and Health Administration (OSHA) to protect your right to work in a safe and healthful environment. HCS requires you to be—

- Informed of the hazardous chemicals in your workplace.

- Trained to work safely with hazardous chemicals.

- Know where to find information on hazardous chemicals.

Working safely with hazardous chemicals is a team effort. This briefing is part of a Federal training program designed to make you a knowledgeable member of the team. Your safety and health and that of your fellow team members depend on your participation in this program.

During this briefing, you will learn about hazardous chemical materials, the forms they take, the safety and health risks they present, and how they enter your body and affect your health. You will also learn to recognize potential chemical hazards and to safely work with them. I will give you a summary handout for future reference so you can make your workplace safer and more healthful for everyone.

SLIDE 3 The Hazard Communication Standard strives to achieve the following goals:

SLIDE 4

- Reduce injury and illness caused by hazardous chemicals in the workplace.

- Identify and evaluate chemical hazards.

- Establish uniform requirements for informing leaders and personnel of chemical hazards.

To achieve these goals, the standard requires the chain of command to—

- Ensure containers of hazardous chemicals are labeled, tagged, or otherwise marked to identify the chemicals and to warn workers of the hazards the chemicals present.

- Inform and train employees. It is the chain of command's responsibility to protect personnel from hazards; your awareness, however, of potential dangers can make significant contributions. Inform your supervisor of hazardous conditions.

- Maintain an up-to-date list of hazardous chemical materials known to be present in the area support group (ASG) or base support battalion (BSB) military community and make this list available on request.

- Maintain a written local hazard communication program that describes how the ASB or BSB complies with the above actions.

Many work processes require using hazardous chemicals. You must recognize potential chemical hazards and protect yourself from them. You are about to see a video. In the video you will see the forms chemicals take and how the chemicals enter your body.

SLIDE 5

At the end of this video, you should be able to—

- Recognize the forms hazardous chemicals take.

- Identify how liquids and solids become airborne.

- Identify sources of mist, vapors, dusts, and fumes in the workplace.

- Identify how hazardous chemicals enter the body.

00:05 Start training videotape (TVT) 20-872 at segment 2A.

00:20 Stop TVT 20-872 at the end of segment 2B.

In the preceding video you saw the Hazard Communication Standard covers both physical and health hazards. The next video segment will help you understand how each type of hazard can affect your health and safety.

SLIDE 6 At the end of this segment of the video, you should be able to—

- Recognize the difference between physical hazards and health hazards.

- Identify an example of both types of hazards.

00:21 Start TVT 20-872 at segment 3A.

00:35 Stop TVT 20-872 at the end of segment 3B.

Everyone who works with hazardous chemicals needs to know how the hazards are controlled. The next video segment will introduce you to engineering controls and personal protective equipment.

SLIDE 7 At the end of this segment of the video, you should be able to identify examples of substitution, isolation, and ventilation controls and protective equipment.

00:36 Start TVT 20-872 at segment 4A.

00:42 Stop TVT 20-872 at the conclusion of 4A. Pass out summary handouts.

00:45 The instructor will give the oral examination by class question-and-answer participation.

SLIDE 8 QUESTION 1. Which of the following are goals of the Hazard Communication Standard?

SLIDE 9

A. Reduce illness and injury caused by chemical hazards in the workplace.

B. Identify and evaluate chemical hazards.

C. Prevent the use of hazardous chemicals in the workplace.

D. Restrict the use of hazardous chemicals in the workplace.

ANSWER: The Hazard Communication Standard was developed to accomplish A and B. The standard does not strive to prevent or restrict the use of hazardous chemicals. Such a goal would be unrealistic. Chemical materials are needed in the workplace just as they are in the home.

QUESTION 2. Classify each substance as either a solid (S), a liquid (L), or a gas (G).

___ Glue	___ Engine Exhaust
___ Solvent	___ Scouring Powder
___ Gasoline	___ Dust

ANSWER: Glue (L), solvent (L), gasoline (L), engine exhaust (G), scouring powder (S), dust (S). Solids hold their shape. Each small granular particle of scouring powder holds its shape. Liquids take the shape of their container; glue conforms to the shape of its container until it is dry. Gases expand to fill their container; engine exhaust expands to fill the entire maintenance bay.

SLIDE 10

QUESTION 3. The table below lists various operations that produce airborne hazards. Across the top are the forms airborne hazards can take: dust, smoke, fume, vapor, mist, and gas. Which forms of hazard does each operation produce (for example, welding can produce smoke, fume, and gases)?

Dust	Smoke	Fume	Vapor	Mist	Gas
------	-------	------	-------	------	-----

	X	X			X
Welding					
Spraypainting			X	X	
Grinding	X				
Brush-painting			X		



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Sanding	X				
Sweeping	X				
Soldering		X	X		
Degreasing				X	X
Dipping				X	

Dust is made of tiny airborne particles formed in grinding, sanding, or sweeping.

Smoke is a mixture of fire gases and airborne dust or fume particles. Smoke is found in any process involving combustion, such as welding and soldering.

Fume particles are formed by cooling vapors from operations (welding and soldering) where solids have been melted.

Vapors form above any exposed liquid surface as the liquid evaporates. Both spray-painting and brush-painting apply liquid to a surface. Degreasing and dipping also involve exposed liquid surfaces.

Mists are formed as liquids are agitated or sprayed under pressure, such as in spray-painting.

Gases may be compressed for a particular operation (such as welding) or may be a by-product of the process itself (such as an engine starting).

SLIDE 13

SLIDE 11

QUESTION 4. How can chemicals in the workplace enter your bloodstream?

- A. Ingestion.
- B. Inhalation.
- C. Skin Absorption.

ANSWER: A, B, and C. Ingested chemicals enter the bloodstream from the intestines. Inhaled chemicals pass from the lungs into the bloodstream. Skin absorption allows the chemical to pass directly into the bloodstream underneath the skin.

SLIDE 12

QUESTION 5. Which of the following terms identify a health hazard associated with exposure to hazardous chemicals?

- A. Explosives.

B. Irritants.

C. Flammable gases.

D. Gasoline.

ANSWER: B and D. Health hazards cause illness or injury when exposed through breathing, swallowing, skin contact, or eye contact. Irritants can cause injury to whatever part of the body they contact. Repeated skin contact with explosives or flammable liquids causes skin irritation. Breathing gasoline vapors slows down the central nervous system.

QUESTION 6. Which of the following terms is a physical hazard of a hazardous chemical?

- A. Compressed gas.
- B. Water reaction.
- C. Spontaneous Combustion.
- D. Corrosion.

ANSWER: A, B, and C. Chemicals that are physical hazards can cause explosions, fires, violent chemical reactions, or other hazardous situations.

SLIDE 14

QUESTION 7. The caution label on a can of insect killer reads:

DO NOT USE NEAR FIRE OR OPEN FLAME. HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.

What type of hazard(s) does this chemical present?

- A. Health.
- B. Physical.

ANSWER: A and B. Many chemicals are both physical and health hazards. The label warns of a physical hazard (flammability) by telling you not to use the chemical near fire or flame. It warns you of a health hazard by telling you that the chemical is harmful when it enters your body.

SLIDE 15

QUESTION 8. Match the application with the necessary method of control:

- Using steam cleaning instead of solvent bases for cleaning.

- Wearing chemical splash goggles.

- Using a ventilation system to remove toxic dust.

- Complete enclosure of a sandblast operation.

- Wearing a respirator to remove toxic vapors from breathing air.

A. Substitution.

B. Personal protective equipment.

C. Ventilation.

D. Isolation.

ANSWER: A, B, C, D, B.

(1) Substitution replaces a hazardous chemical or process with a less hazardous one.

(2) Personal protective equipment includes eye wear, face masks, clothing, gloves, boots, respirators, and other equipment that workers wear to prevent or reduce their exposure to hazardous chemicals.

(3) Ventilation mixes fresh air with contaminated air to dilute the hazard or remove the airborne hazard at the source.

(4) Isolation separates the hazard from the user.

SLIDE 16

QUESTION 9. A small dip painting operation in a large work area produces small amounts of a mildly irritating vapor that mixes readily with air. Which type of protective equipment is most appropriate for controlling this hazard?

A. General ventilation.

B. Local exhaust ventilation.

C. Air-supplied respirator.

D. Air-purifying respirator.

ANSWER: B. Local exhaust ventilation is most appropriate for controlling airborne hazards when the airborne chemical is not very toxic and mixes readily with air.

QUESTION 10. If you suspect the materials you work with or the operation you perform is producing a chemical hazard you are not familiar with, what should you do?

A. Ask your immediate supervisor.

B. Check the hazardous material information in the shop files.

C. Contact the unit safety officer.

D. All of the above.

ANSWER: A and B. Seek supervisory guidance. Refer to material safety data sheets to identify chemical characteristics and to take appropriate protective measures.

Conclusion. The Federal Hazard Communication Standard is intended to provide a safe, healthy working environment by ensuring everyone—

- Understands the hazards of chemicals they work with.

- Knows how to minimize these hazards.

The chain of command must inform and train personnel in how to use hazardous chemicals safely. Users must comply with appropriate measures and maintain a safe, productive work environment.

SLIDE 17

00:59

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You have seen three lessons from the video tape. The entire tape is 87 minutes long and comes with a workbook designed for self-paced study. I encourage officers and noncommissioned officers who supervise personnel in maintenance shops or other facilities using hazardous chemicals to view the rest of the tape. Both the tape and the workbook are available through the training and audio-visual support service center under the catalogue numbers on the summary handout.

### **Slides**

1. Title Page

2. Hazard Communication Standard
3. Hazard Communication Standard Goals
4. Chemical Forms and Hazards Learning Objectives
5. Physical and Health Hazards Learning Objectives
6. Hazard Communication Standard Chain of Command Requirements
7. Controlling Chemical Hazards Learning Objectives
8. Hazard Communication Standard Question 1
9. Hazard Communication Standard Question 2
10. Hazard Communication Standard Question 3
11. Hazard Communication Standard Questions 4
12. Hazard Communication Standard Question 5
13. Hazard Communication Standard Question 6
14. Hazard Communication Standard Question 7
15. Hazard Communication Standard Question 8
16. Hazard Communication Standard Question 9
17. Hazard Communication Standard Question 10

# **HAZARD COMMUNICATION STANDARD**

# **HAZARD COMMUNICATION STANDARD**

EMPLOYEES ARE—

INFORMED OF THE HAZARDOUS  
CHEMICALS IN YOUR WORKPLACE

TRAINED TO WORK SAFELY WITH  
THESE MATERIALS

KNOW WHERE TO FIND INFORMATION  
ON HAZARDOUS CHEMICALS

# **HAZARD COMMUNICATION STANDARD GOALS**

REDUCE THE INCIDENCE OF INJURY  
AND ILLNESS CAUSED BY HAZARDOUS  
CHEMICALS IN THE WORKPLACE

IDENTIFY AND EVALUATE CHEMICAL  
HAZARDS

ESTABLISH UNIFORM REQUIREMENTS  
FOR INFORMING LEADERS AND  
SOLDIERS OF CHEMICAL HAZARDS

# **CHEMICAL FORMS AND HAZARDS LEARNING OBJECTIVES**

RECOGNIZE THE FORMS THAT  
CHEMICALS TAKE

IDENTIFY HOW LIQUIDS AND SOLIDS  
BECOME AIRBORNE

IDENTIFY SOURCES OF MISTS, VAPORS,  
DUSTS, AND FUMES IN THE  
WORKPLACE

IDENTIFY HOW CHEMICALS ENTER THE  
BODY

# **PHYSICAL AND HEALTH HAZARDS LEARNING OBJECTIVES**

RECOGNIZE THE DIFFERENCE  
BETWEEN PHYSICAL HAZARDS AND  
HEALTH HAZARDS

IDENTIFY EXAMPLES OF BOTH TYPES  
OF HAZARDS



# **HAZARD COMMUNICATION STANDARD CHAIN OF COMMAND REQUIREMENTS**

**ENSURE CONTAINERS ARE LABELED**

**INFORM AND TRAIN SOLDIERS AND  
CIVILIAN EMPLOYEES**

**MAINTAIN A WRITTEN AREA SUPPORT  
GROUP OR BASE SUPPORT BATTALION  
PROGRAM**

**MAINTAIN AN UP-TO-DATE LIST OF  
HAZARDOUS MATERIALS PRESENT IN  
THE BASE SUPPORT BATTALION**

# **CONTROLLING CHEMICAL HAZARDS LEARNING OBJECTIVES**

IDENTIFY EXAMPLES OF SUBSTITUTION,  
ISOLATION, AND VENTILATION  
CONTROLS IDENTIFY PROTECTIVE  
EQUIPMENT

# **HAZARD COMMUNICATION STANDARD QUESTION 1**

**WHICH OF THE FOLLOWING ARE GOALS  
OF THE HAZARD COMMUNICATION  
STANDARD?**

**A. REDUCE ILLNESS AND INJURY  
CAUSED BY CHEMICAL HAZARDS IN  
THE WORKPLACE**

**B. IDENTIFY AND EVALUATE CHEMICAL  
HAZARDS**

**C. PREVENT THE USE OF HAZARDOUS  
CHEMICALS IN THE WORKPLACE**

**D. RESTRICT THE USE OF HAZARDOUS  
CHEMICALS IN THE WORKPLACE**

# HAZARD COMMUNICATION STANDARD QUESTION 2

CLASSIFY EACH SUBSTANCE AS  
EITHER A SOLID (S), A LIQUID (L), OR A  
GAS (G).

\_\_\_\_\_ GLUE                      \_\_\_\_\_ ENGINE EXHAUST

\_\_\_\_\_ SOLVENT                      \_\_\_\_\_ SCOURING POWDER

\_\_\_\_\_ GASOLINE                      \_\_\_\_\_ DUST

# HAZARD COMMUNICATION STANDARD QUESTION 3

EACH OPERATION ON THE LEFT CAN  
CAUSE WHICH AIRBORNE HAZARDS?

	DUST	SMOKE	FUME	VAPOR	MIST	GASES
WELDING		X	X			X
SPRAY PAINTING						
GRINDING						
BRUSH PAINTING						
SANDING						
SWEEPING						
SOLDERING						
DEGREASING						
DIPPING						

# **HAZARD COMMUNICATION STANDARD QUESTION 4**

HOW CAN CHEMICALS IN THE  
WORKPLACE ENTER YOUR  
BLOODSTREAM?

- A. INGESTION
- B. INHALATION
- C. SKIN ABSORPTION

# **HAZARD COMMUNICATION STANDARD QUESTION 5**

WHICH OF THE FOLLOWING TERMS  
IDENTIFY A HEALTH HAZARD  
ASSOCIATED WITH EXPOSURE TO  
HAZARDOUS CHEMICALS?

- A. EXPLOSIVES
- B. IRRITANTS
- C. FLAMMABLE GASES
- D. GASOLINE

# **HAZARD COMMUNICATION STANDARD QUESTION 6**

WHICH OF THE FOLLOWING TERMS  
DESCRIBE A PHYSICAL HAZARD OF  
HAZARDOUS CHEMICALS?

- A. COMPRESSED GAS
- B. WATER-REACTIVE
- C. SPONTANEOUSLY COMBUSTIBLE
- D. CORROSIVE



# HAZARD COMMUNICATION STANDARD QUESTION 7

THE CAUTION LABEL ON A CAN OF  
INSECT KILLER READS:

DO NOT USE NEAR FIRE OR OPEN FLAME  
HARMFUL IF SWALLOWED, INHALED, OR  
ABSORBED THROUGH SKIN

WHAT TYPE OF HAZARD(S) DOES THIS  
CHEMICAL PRESENT?

A. HEALTH

B. PHYSICAL

# **HAZARD COMMUNICATION STANDARD QUESTION 8**

MATCH THE APPLICATION WITH THE NECESSARY  
METHOD OF CONTROL:

-- USING STEAM CLEANING INSTEAD OF SOLVENT  
BASES FOR CLEANING

-- WEARING CHEMICAL SPLASH GOGGLES

-- USING VENTILATION SYSTEM TO REMOVE TOXIC  
DUST

-- COMPLETE ENCLOSURE OF A SANDBLAST  
OPERATION

-- WEARING A RESPIRATOR TO REMOVE TOXIC  
VAPORS FROM BREATHING AIR

A. SUBSTITUTION

C. VENTILATION

B. PERSONAL PROTECTIVE EQUIPMENT

D. ISOLATION

# **HAZARD COMMUNICATION STANDARD QUESTION 9**

A SMALL DIP PAINTING OPERATION IN A LARGE WORK AREA PRODUCES SMALL AMOUNTS OF A MILDLY IRRITATING VAPOR THAT MIXES READILY WITH AIR. WHAT TYPE OF PROTECTIVE EQUIPMENT IS MOST APPROPRIATE FOR CONTROLLING THIS HAZARD?

- A. GENERAL VENTILATION
- B. LOCAL EXHAUST VENTILATION
- C. AIR-SUPPLIED RESPIRATOR
- D. AIR-PURIFYING RESPIRATOR

# **HAZARD COMMUNICATION STANDARD QUESTION 10**

IF YOU SUSPECT THE MATERIALS YOU WORK WITH OR THE OPERATION YOU PERFORM IS PRODUCING A CHEMICAL HAZARD THAT YOU ARE NOT FAMILIAR WITH, WHAT SHOULD YOU DO?

- A. ASK YOUR IMMEDIATE SUPERVISOR
- B. CHECK THE HAZARDOUS CHEMICAL INFORMATION IN THE SHOP FILES
- C. CONTACT THE UNIT SAFETY OFFICER
- D. ALL OF THE ABOVE

## APPENDIX B SUMMARY HANDOUT

The Hazard Communication Standard—

a. Was issued by the Occupational Safety and Health Administration to—

(1) Reduce injury and illness caused by hazardous chemicals.

(2) Identify and evaluate chemical hazards.

(3) Establish uniform requirements by informing leaders and soldiers about chemical hazards.

b. Requires the chain of command to—

(1) Ensure hazardous chemicals are labeled.

(2) Inform and train soldiers.

(3) Maintain a list of hazardous chemicals in the ASG or BSB.

(4) Maintain a written program.

c. Defines two categories of chemical hazards:

**(1) Physical Hazards.** These are chemicals that cause explosions, fires, violent chemical reactions, or other hazardous situations.

**(2) Health Hazards.** These are chemicals that can cause illness or injury when inhaled or swallowed or through contact with the skin or eyes.

Chemicals exist in one of the following basic forms:

a. Solids, which have a definite shape and can be inhaled as dust or fume particles.

b. Liquids, which take the shape of their container and can be inhaled as mists or vapors.

c. Gases, which are easily compressed, expand to fill a container, and can be inhaled when not contained.

Both dust and fumes are made of tiny solid particles. Mechanical operations, such as grinding and crushing, produce dust. Transferring powdered or fibrous solids and abrasive cleaning also produces dust. Fumes form by vapor condensation when solids are melted in welding, metal casting, and similar operations.

The following provide additional guidance:

a. DOD Federal Hazard Communication Training Program Student Workbook, 6050.5-W, April 1989.

b. Training Video Tape 20-872, The Federal Hazard Communication Program (English or German version), 87 minutes, color, catalog number 505215-DA-VT.

**This appendix may be reproduced locally to accompany the Hazard Communication Standard Briefing (app A, sec II).**